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3 (Sem-6/CBCS) ANT HE 2

2025

ANTHROPOLOGY

(Honours Elective)

Paper : ANT-HE-6026

(Human Genetics)

Full Marks : 60

Time : Three hours

The figures in the margin indicate full marks for the questions.

1. Answer the following in shorts : 1×7=7

- What is the sugar molecule that makes up the backbone of DNA ?
- What is the primary function of RNA ?
- Write the full form of SNPs.
- What is the characteristics of mitochondrial inheritance ?
- What is chromatid ?

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400 Contd.

(f) What is the most common genetic disorder caused by trisomy ?

(g) What is the term used for the existence of two or more different forms of a gene or trait in a population ?

2. Give brief answers : 2×4=8

- What is epigenetics ?
- What is meant by phenotype and genotype ?
- Mention two functions of RNA.
- What is human genome ?

3. Write short notes on **any three** of the following : 5×3=15

- DNA repair and recombination
- Genetic mapping
- Pedigree analysis
- Relationship between gene and protein
- Genetic polymorphism

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4. Answer **any three** of the following questions : 10×3=30

- Describe the structure and organization of human chromosomes in details.
- Discuss the role of genetic variation including SNPs, CNVs and structural variations in human diseases.
- Explain the chromosomal basis of genetic disorders like Down Syndrome.
- Describe the process of gene expression including transcription and translocation.
- Discuss about genomic diversity among Indian population.